

## **Abstract**

The present invention provides an alginate oligosaccharide and its derivatives with the degree of polymerization ranging from 2 to 22. The alginate oligosaccharide is composed of  $\beta$ -D-mannuronic acid linked by 1,4 glycosidic bonds. The derivatives with the reduced terminal in position 1 of carboxyl radical can be prepared by oxidative degradation. The present invention also provides a process for preparing the alginate oligosaccharide and its derivatives, which includes the procedures that an alginate solution is reacted for 2 to 6 h in an autoclave at pH 2-6 and the temperature of 100-120°C, and pH is adjusted to 7 after the reaction is stopped, after which the resultant oligosaccharide is oxidized in the presence of an oxidant to obtain an oxidative degradation product. The alginate oligosaccharide and its derivatives of the invention can be used in the manufacture of a medicament for the prophylaxis and treatment of AD and diabetes.